

**Remarks**

Please cancel claims 1-4, 6, 13.

**Drawings**

The term “drain contact region” is illustrated in Figures 5, 6, and 7, and defines a drain that has a contact. This distinguishes the contacted drain (which in Figure 4 is a n+ drain) from the floating drain (which, by definition, has no contact).

Nevertheless, the terminology in claims 11, 12, 16 has been amended to be consistent with the specification on page 6, line 36. The claims have therefore been amended to use the term “drain” for the region that will have a contact, and “floating drain” for the region that is not contacted and is therefore floating.

It bears noting that it would be obvious to a person skilled in the art that in Figure 3, the black region on top of the n+ drain 316 and p+ emitter 320 is a contact, since region 316 is described as a n+ drain and must therefore have a contact, particularly since Figure 3 also shows a floating drain 318 without a contact. Also, the specification makes it clear to a person skilled in the art that the invention distinguishes itself by having the n+ drain or part thereof formed between the gate and the emitter. (page 6, lines 2-5). Thus, not only the floating drain (as in the prior art) but also at least part of the n+ drain is located between the gate and the emitter. (Page 6, line 2 has also been amended to be consistent with the wording on page 6, line 36.) This is also made clear by contrasting the invention with the prior art. As stated on page 5, lines 2-4, carrier injection from p+ emitter region is reduced by reversing the location of p+ emitter and n+ drain. It is therefore clear that p+ emitter refers to the emitter that has a contact, otherwise it could not be injecting carriers.

As mentioned above, the claims have been amended to avoid the use of the term “drain contact region.”

**Claim Rejections – 35 USC 112**

Claims 1-4, 6, and 13 have been deleted and new claims 17 and 18 added. Claims 5-7 have been amended to depend from new independent claim 17. Independent claim 11 has been amended.

Claims 5 and 12 specify that the drain (other than the floating drain) may be split into at least one first and at least one second portion. Support for this is found in Figure 4 which clearly shows such a split drain 402.

It is respectfully submitted that the amended and new claims address the section 112 issue, and, as discussed above, do not include any new matter but use the terminology that is either in the specification or in the drawings.

### **Claim Rejections –35USC 102**

Claims 1-4 and 6 and 13 have been deleted as mentioned above.

The rejection of the remaining claims is addressed by the changes to the terminology, which makes it clear that at least part of the n+ drain (not merely the floating drain) is located between the emitter and the gate. This is not shown or suggested in the acknowledged prior art (APA). Therefore the APA does not present a section 102 problem for the new and amended claims.

For purposes of consistency, even though claim 1 has been deleted, it bears noting that the characteristics of a prior art LVTSCR such as that shown in Figure 2, are generally known and include a snapback I-V characteristic that displays only a single snapback triggering characteristic.

### **Claim Rejections –35USC 103**

Claim 3 has been deleted and is therefore not addressed further regarding the Lee reference.

Independent claim 11 has been amended and is now distinguishable over the APA. Since claim 16 is dependent from claim 11, it is respectfully submitted that it is no longer obvious over the APA and Voldman.


**Version with markings to show changes made:**

5. (Amended) A structure of claim [4] 17, wherein the [n+]drain contact region is split into at least one first drain [region] contact portion located near the gate, and at least one second drain [region] contact portion.
7. (Amended) A structure of claim [4] 17, wherein the structure includes multiple emitters outside at least part of the [n+]drain contact region.
11. (Amended) A high holding voltage LVTSCR-like structure, comprising  
an emitter,  
a drain, and  
a floating drain, wherein the [an]emitter is located so that at least part of the drain [region]is located between the gate and emitter [region].
12. (Amended) A structure of claim 11, wherein the [n+]drain [region]is split into at least one first drain [region] portion located near the gate, and at least one second drain [region] portion.
16. (Amended) A structure of claim 12, wherein the [first and second]floating drain [regions] and drain are separated by a shallow trench isolation region.

In view of the above comments and amendments, it is respectfully submitted that the remaining claims in the application: claims 5, 7, 11, 12, 14, 15, 16, 17, 18 are now in a position for allowance. The Examiner is therefore respectfully requested to allow the application with the remaining claims, to proceed to allowance.

Respectfully Submitted,

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